In the Claims:

Applicants elect to continue prosecution with the Group I claims 1 to 9, 14 to 18 and new claims 23 to 30, all limited to the androgen receptor. Furthermore applicants *provisionally* elect the species of invention comprising the nerve cells and the RT-PCR measuring method. Also please add claims 23 to 30 (Group I), cancel claims 10 and 11 without prejudice and amend claims 1, 3, 6, 14 and 15:

1(currently amended). A method of determining hormonal effects of substances, said method comprising the steps of:

a) contacting a test substance with Ewing sarcoma protein (EWS) or a derivative of said Ewing sarcoma protein and with an androgen receptor (AR) or a derivative of said androgen receptor (AR)~~a nuclear receptor (NR) or a derivative of said nuclear receptor~~; and

b) determining the effect of the test substance on binding of said Ewing sarcoma protein (EWS) or said derivative of said Ewing sarcoma protein with said androgen receptor (AR)~~nuclear receptor~~ or said derivative of said androgen receptor (AR)~~nuclear receptor~~; or

c) determining the effect of the test substance on ligand-induced activity of said androgen receptor (AR)~~nuclear receptor~~.

2(previously presented). The method as defined in claim 1, further comprising performing at least one of said steps in a cellular system.

3(currently amended). The method as defined in claim 2, further comprising the additional steps of:

a) exposing cells, which express said Ewing sarcoma protein or said derivative of said Ewing sarcoma protein and said androgen receptor (AR) ~~nuclear receptor~~ or said derivative of said androgen receptor (AR)~~nuclear receptor~~, to said test substance to be tested; and

b) measuring protein-protein interaction or protein-protein-DNA interaction in order to determine the effect of the test substance on interaction between said Ewing sarcoma protein (EWS) or said derivative of said Ewing sarcoma protein and said androgen receptor (AR)~~nuclear receptor~~ or said derivative of said androgen receptor (AR)~~nuclear receptor~~.

4(previously presented). The method as defined in claim 3, wherein said cells are eukaryotic cells.

5(previously presented). The method as defined in claim 3, wherein said cells are eukaryotic cells and said eukaryotic cells are selected from the group consisting of prostate cells, nerve cells, glia cells, fibroblasts, blood cells, osteoblasts, osteoclasts, hepatocyes, epithelial cells and muscle cells.

6(currently amended). The method as defined in claim 2, further comprising the additional steps of:

a) exposing cells, which express said Ewing sarcoma protein or said derivative of said Ewing sarcoma protein and said androgen receptor (AR) ~~nuclear receptor~~ or said derivative of said androgen receptor (AR)~~nuclear receptor~~ and are transfixed with a reporter gene construct, to said test substance to be tested and ligands of the androgen receptor (AR)~~nuclear receptor~~; and

b) measuring reporter gene activity to determine transcription activity of the androgen receptor (AR)~~nuclear receptor~~; and

c) comparing the transcription activity determined in step b) with transcription activity determined by repeating steps a) and b) in the absence of said test substance.

7(previously presented). The method as defined in claim 6, wherein said cells are eukaryotic cells.

8(previously presented). The method as defined in claim 6, wherein said cells a eukaryotic cells and said eukaryotic cells are selected from the group consisting of prostate cells, nerve cells, glia cells, fibroblasts, blood cells, osteoblasts, osteoclasts, hepatocyes, epithelial cells and muscle cells.

9(previously presented). The method as defined in claim 1, wherein said derivative of said Ewing sarcoma protein is obtained by amino acid deletion, substitution, insertion, inversion, addition or exchange of a polypeptide coded by a nucleic acid sequence according to Seq. ID No. 1.

Claims 10 to 11 (canceled).

12(previously presented). A method for determining interference of a co-modulator mechanism between an androgen receptor and Ewing sarcoma protein, said method comprising measuring at least one of cellular concentrations and tissue concentrations of said androgen receptor and said Ewing sarcoma protein.

13(previously presented). The method as defined in claim 12, wherein said measuring of said concentrations is performed by radio immunoassay, ELISA, immunodyeing, RT-PCR, Western blot or Northern blot.

14(currently amended). A method for identification and characterization of substances that influence androgen ~~nuclear~~ receptor activity, said method comprising using Ewing sarcoma protein or a derivative of said Ewing sarcoma protein that modulates activity of androgen receptor (AR) ~~at least one nuclear receptor~~ for said identification and said characterization of said substances that influence androgen ~~nuclear~~ receptor activity.

15(currently amended). A method for identification and characterization of substances that influence androgen ~~nuclear~~ receptor activity, said method comprising using Ewing sarcoma protein or a nucleic acid coding for a derivative

of said Ewing sarcoma protein for said identification and said characterization of said substances that influence androgen ~~nuclear~~ receptor activity.

16(previously presented). The method as defined in claim 15, in which said nucleic acid is cloned in an expression cassette of an expression vector.

17(previously presented). The method as defined in claim 15, wherein said nucleic acid has at least 70 % homology to Seq. ID No. 1, or to sequence region 8 to 2032 or sequence region 1000 to 2011 of said Seq. ID No. 1.

18(previously presented). The method as defined in claim 17, in which said nucleic acid is cloned in an expression cassette of an expression vector.

19(previously presented). A method of diagnosing illnesses, which are brought about by dysfunction of a nuclear receptor, said method comprising using a nucleic acid with at least 70 % homology to Seq. ID No. 1, or to sequence region 8 to 2032 or sequence region 1000 to 2011 of said Seq. ID No. 1, or using an antibody that acts against a protein coded by said nucleic acid.

20(previously presented). The method as defined in claim 19, wherein said nuclear receptor is an androgen receptor.

21(previously presented). A method of therapeutically treating illnesses, which are brought about by dysfunction of a nuclear receptor, said method comprising using a protein coded by a nucleic acid with at least 70 % homology to Seq. ID No. 1, or to sequence region 8 to 2032 or sequence region 1000 to 2011 of said Seq. ID No. 1, or using an anti-sense nucleic acid acting against said nucleic acid.

22(previously presented). The method as defined in claim 21, wherein said nuclear receptor is an androgen receptor.

23(new). The method as defined in claim 1, further comprising performing at least one of said steps in a cellular system and wherein said cellular system comprises nerve cells.

24(new). The method as defined in claim 3, wherein said cells are nerve cells.

25(new). The method as defined in claim 6, wherein said cells are nerve cells.

26(new). The method as defined in claim 12, wherein said cellular concentrations are measured in nerve cells and said tissue concentrations are measured in nerve tissue.

27(new). The method as defined in claim 12, wherein said measuring of said

concentrations takes place by RT-PCR.

28(new). The method as defined in claim 14, further comprising measuring concentrations of said androgen receptor and said Ewing sarcoma protein or said derivative of said Ewing sarcoma protein by RT-PCR.

29(new). The method as defined in claim 15, further comprising measuring concentrations of said androgen receptor and said Ewing sarcoma protein by RT-PCR.

30(new). The method as defined in claim 1, further comprising during the determining measuring concentrations of said androgen receptor and said Ewing sarcoma protein by RT-PCR.